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Digitalisation of Railways

NSA – Perspective

ERA Florence Event Fiesole 3rd May 2016

Florence School of Regulation / EUI

Content

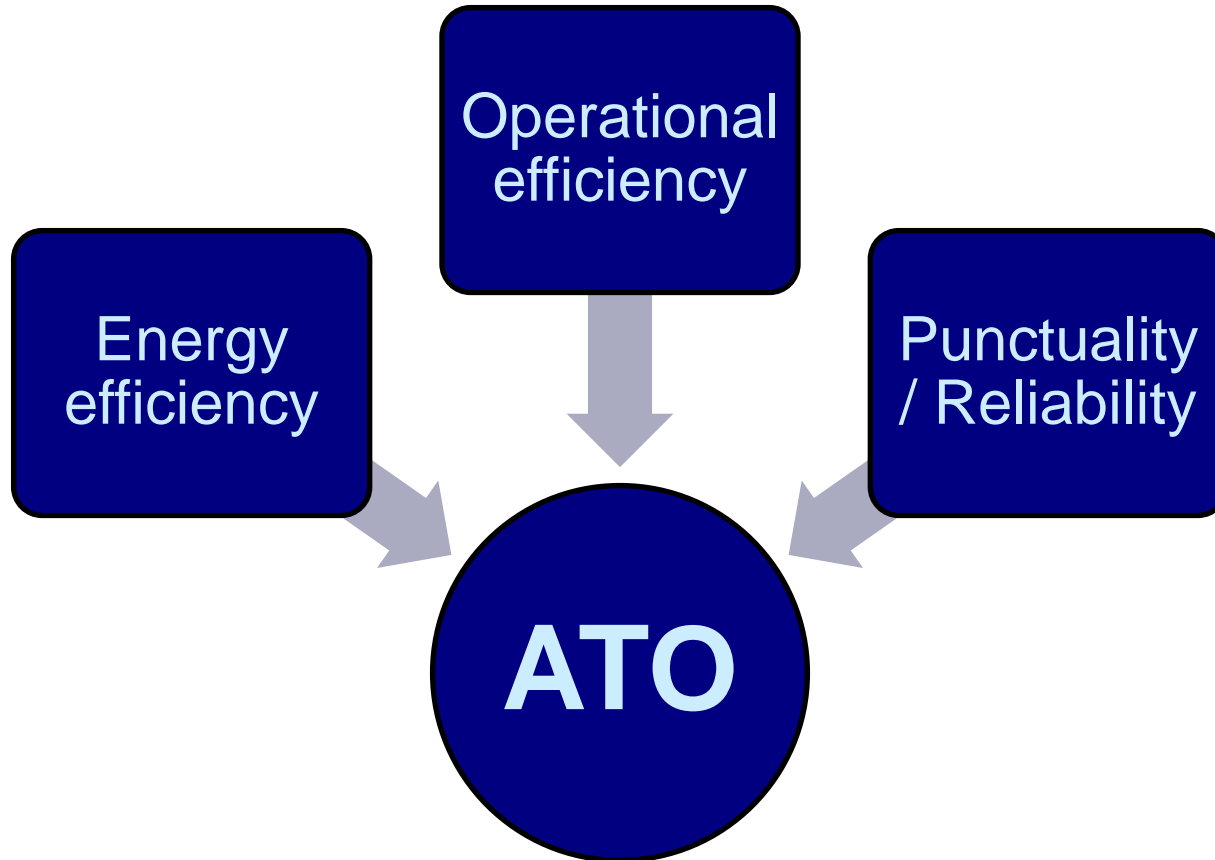
- I. **NSA perspective on digitalisation of railways**
- II. **Automatic Train Operation (ATO)**



NSA perspective on digitalisation of railways

- **Challenge for NSAs which require changes in procedures, requirements for testing, authorisation; examples**
 - Digital traction control
 - Digital train radio
 - Digital control of ultrasonic tests
 - Electromagnetic compatibility
 - Electronic interlocking centres
- **Organisation:**
 - Competence in the NSA
 - Area of Research
- **Accompany deployment of new systems, example: ATO**

Automatic Train Operation (ATO)





Automatic Train Operation (ATO)

- **Actually tests for automatic driving on road and rail are performed in different projects, for ATO i. E. in Switzerland, United Kingdom and Germany**
 - In the near future national safety authorities need to decide how to implement the legal framework and safety relevant aspects for ATO.
 - EBA is planning a project for research of the ATO considering the following aspects:
 - Clarification of the state of research; assessment of the potential and influences for the railway system of Germany,
 - demonstration of possible operational concepts for railway traffic in Germany,
 - analysis of resulting safety requirements, taking into account the retention and further development of the safety level (according to 2004/49/EG),
 - transferability to existing legal framework and identification of necessary changes in technical and legal regulations.



Automatic Train Operation (ATO) vs. Automatic freight transportation on roads

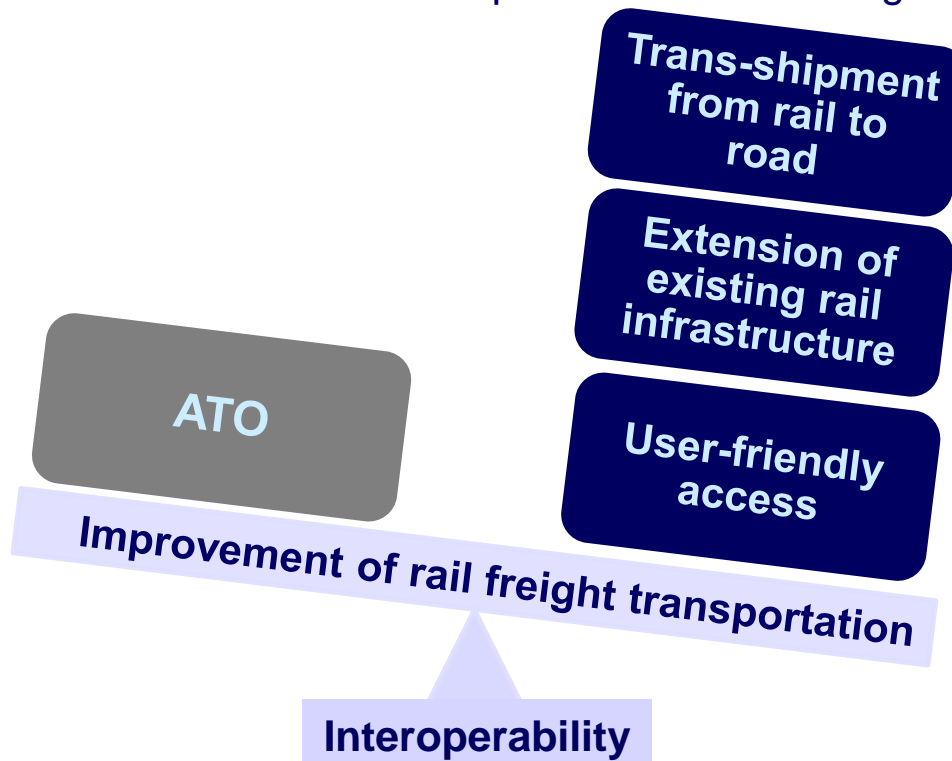
- **Automatic freight transportation on road is a serious opponent for ATO:**
 - Imitation of a "train" on roads, with the additional advantage of a denser infrastructure network, possibility to enter and leave the convoy for special trucks at defined locations
- **Shift from rail to road is possible**

Challenges relating automatic freight transportation on roads to be solved:

- Operational applicability
- Overloaded road infrastructure
 - Capacity
 - Damage to streets / bridges
- Environmental impact

Automatic Train Operation (ATO) vs. Automatic freight transportation on roads

- **ATO is one of many other measures to prevent a possible shift from rail freight transportation to automatic freight transportation on roads**
 - But is there a relevant influence on improvement of rail freight transportation?



Thank you for your kind attendance!



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